

**Cruise Plan**

**Search for *Trouvadore***

**June 24 - July 25, 2006**

NOAA Award No. NA06OAR4600103

Donald H. Keith, Chief Scientist

Ships of Discovery  
Corpus Christi, Texas 78413

## **1. Cruise Overview:**

- a. Chief scientist contact information
  - Donald H. Keith
  - Ships of Discovery
  - 1900 N. Chaparral St
  - Corpus Christi, TX 78413
  - Phone: 361-826-4674
  - Fax: 361-884-7392
- b. Vessel identification and cruise number
  - Caribbean Explorer 1
- c. Study areas
  - East Caicos, Turks & Caicos Islands, BWI; the north coast and inshore lagoon
- d. Goals and objectives
  - i. To complete a magnetometer survey of the search area
  - ii. To complete the visual tow-board survey begun in 2004
  - iii. To test excavate the Black Rock Wreck discovered in 2004
  - iv. To film every aspect of the project in high-definition video

## **2. Description of operations:**

- a. Submersible (HOV, ROV, AUV) – Not applicable
- b. Video recording – High definition video underwater and topside
- c. Standard oceanographic -- Not applicable
  - i. CTD
  - ii. Rosette
  - iii. SCS
- d. Scientific sample processing – Not applicable
  - i. geologic
  - ii. biologic
  - iii. chemical
- e. Small boat operations
  - i. Four 14-foot inflatable boats with outboard engines will be used to transport divers and film crew to locations within the search area. These boats will provide support for the test excavation, magnetometer operations, tow-boarding and related activities.
- f. Visits - education and outreach events
  - i. Two Web sites: [www.trouvadore.org](http://www.trouvadore.org) and [www.slaveshiptrouvadore.com](http://www.slaveshiptrouvadore.com)
  - ii. TV coverage in the TCI including promotional DVD before project (local TCI station)
  - iii. TV interviews after project (local TCI station)
  - iv. Radio interview after project (local TCI station)
  - v. Newspaper articles before and after project (Gainesville Sun, July 8 and July 24, 2006)
- g. Other – Not applicable

## **3. Itinerary:**

- a. Summary - staging, underway, demobilization (see chart below)
- b. Details - dates, times, way points, activities (see chart below)

JUNE-JULY DATES	24 - 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22- 25
MOBILIZATION, PREPARATION	2														
ASSEMBLE TEAM ON GDT		A													
LOAD EXPLORER, SAIL TO EAST CAICOS, FIND SUITABLE MOORING			A												
SET UP WORK STATIONS, LAUNCH BOATS, TEST EQUIPMENT				A											
FILMING		3	3	3	3	3	3	3	3	3	3	3	3		
MAGNETOMETER SURVEY				3	3	3	3	3	3	3	3				
TOWING AND FINDS RECORDING				4	4	4	4	4	4						
TEST EXCAVATION OF BRW				4	4	4	4	4	4	4	4				
TEST EXCAVATION OF SITE "T-1"									3	4	4				
BACKFILL ALL TEST EXCAVATIONS												8			
BREAK DOWN BOATS, RECOVER BUOYS, DEPART EAST CAICOS												A			
UNLOAD EXPEDITION ON GDT													A		
DE-MOBILIZATION OF PERSONNEL													A		
DE-MOBILIZATION OF EQUIPMENT														3	3
NUMBER OF BOATS NEEDED				4	4	4	4	4	4	4	4	4			
NUMBER OF PEOPLE NEEDED	1	A	A	14	14	14	14	14	17	14	14	A	A	3	3

#### 4. Personnel

##### a. List

Donald H. Keith, PhD, Chief Scientist, Ships of Discovery  
Nigel Sadler, Director, Turks & Caicos National Museum  
Toni L. Carrell, Ph.D., Ships of Discovery  
James Hunter, Ships of Discovery  
Randal Davis, M.D., Ships of Discovery  
Jason Burns, Southeast Archaeological Research, Inc.  
Michael Krivor, Southeast Archaeological Research, Inc  
Veronica Veerkamp, Windward Media  
Richard Coberly, Windward Media  
Fujio Watanabe, KUHT HoustonPBS

##### b. Berthing plan – Not applicable

#### 5. Organizational structure - roles/responsibilities

Donald H. Keith: principal investigator/project director  
Toni L. Carrell: co-principal investigator, site testing  
Nigel Sadler: tow-boarding and visual inspection of anomalies  
Jason Burns: project manager, remote sensing

Richard Coberly: director, filming

**6. Equipment lists:**

- a. Required from ship
  - i. SCUBA tanks, weights, and similar gear
  - ii. inflatable boat with outboard
- b. Provided by science party - size, weight
  - i. all mapping, photographic, videographic, and test excavation equipment
  - ii. all remote sensing equipment
  - iii. three 14-foot inflatable boats and outboard engines
  - iv. ten 30-gal drums gasoline for outboard engines

**7. Disposition of data:**

- a. Data and samples
  - Turks & Caicos National Museum; Ships of Discovery (selected samples only)
- b. Records and reports
  - Turks & Caicos National Museum; Department of Environment and Coastal Resources (copies); Ships of Discovery (copies)
- c. Real-time products (highlights video, high-res image CD, etc.)
  - Turks & Caicos National Museum – still digital images
  - Windward Media – high resolution video

**8. Emergency information**

Satellite phone CEX1: 1-254-214-8649

Cell phone CEX1: 1-242-551-6080

Email (small files only): [cex1@explorerventures.com](mailto:cex1@explorerventures.com)

**9. Communications**

Satellite phone, VHF radio, walkie-talkies

**10. Miscellaneous:**

- a. HAZMAT inventory – Not applicable
- b. Meals – Provided by ship while on board

**Appendices:**

- A. Detailed project descriptions
  - i. To complete a magnetometer survey of the search area
    - See attachment A: Magnetometer Survey Plan
  - ii. To complete the visual tow-board survey begun in 2004
    - Control of the paths of the search boats and the locations of wreck sites and debris fields will be accomplished using hand-held, data-logging GPS receivers in conjunction with highly detailed, digital, “geo-referenced” aerial images of the north coast of East Caicos. Geo-referencing is a technique that imposes map grid coordinates on an aerial image so that it can be used like a map: all measurements and directions taken from the image are true and tied into standard mapping conventions. We use the Universal Transverse Mercator (UTM) grid convention, which facilitates distance calculations.

The efficacy of these aerals used in combination with GPS units was amply demonstrated in 2004. At the end of each series of runs made parallel to the reef at various distances the GPS data logs were downloaded into a special mapping program that entered both the boat's track and the locations of all points of interest directly onto the digital aerial images of the search area. The tracks showed us where the boats had looked (and, more importantly, where they hadn't!). When entered on the survey map, the points of interest revealed distribution patterns that allowed us to associate artifacts found on the forereef with those found days later in the lagoon. A smaller search area was visually searched using towed divers. The search lanes were also guided by use of the GPS units and later the data transferred to the geo-registered aerals and the lanes printed out directly on the image. In this manner any gaps, as well as locations of remains, are quickly and easily plotted.

iii. To test excavate the Black Rock Wreck discovered in 2004

Objectives with respect to test excavation of the BRW are:

- 1) to tow magnetometer over site to develop a "baseline profile" and to see if large concentrations of iron artifacts are in the immediate area.
- 2) to locate bow and stern ends of the keel.
- 3) to excavate an exploratory trench transversely across the hull to discover width of vessel amidships.
- 4) to locate the vessel's mastercouple (widest part of the hull).
- 5) to expose the "stempost."
- 6) to recover wood samples from scantlings (the ship's major structural timbers)
- 7) to record dimensions of the scantlings.
- 8) to uncover and document construction features of the hull.
- 9) to recover potentially diagnostic artifacts.

iv. To film every aspect of the project in high-definition video

B. Primary operating area -- North coast of East Caicos Island

19Q 233964 2407920 NW corner,  
19Q 238868 2405313 N middle,  
19Q 243729 2405034 NE corner,  
19Q 243945 2403566 SE corner,  
19Q 238884 2403772 S Breezy Point,  
19Q 236416 2404980 NE corner,  
19Q 233920 2406964 SW corner

C. Permits and certifications

See Appendix B – Turks & Caicos Islands Exploration and Excavation License

D. MSDS sheets – Not applicable

E. Contact information

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